In re Patent Application of:
TOWNSEND ET AL.
Serial No. **10/538,019**
Filed: **June 7, 2005**
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REMARKS

Applicants would like to thank the Examiner for the thorough examination of the present application. Applicants would also like to thank the Examiner for correctly indicating as allowable the subject matter of dependent Claims 12 and 13.

Independent Claim 11 has been amended to include the allowable subject matter from dependent Claim 12. Claim 12 has been cancelled, and the dependency of Claim 13 has been changed accordingly.

New Claims 17-26 are being added. New independent Claim 17 is based on original independent Claim 11 and dependent Claim 12 except without defining the scanning device as generating a laser beam projected onto the pallet, and without gripping the pallet to be transported. New independent Claim 20 is based on original independent Claim 11, but further defines the map as including features, dimensions and topography of the pallet. Support for the new claim may be found in paragraph 36 in the specification.

The arguments supporting patentability of new claims are provided below.

I. The New Independent Claims

The present invention, as recited in new independent Claim 17, is directed to a method of automated pallet repair, comprising the steps of using a scanning device to create a three-dimensional data map of a pallet for detecting gaps and protrusions in the pallet; filtering the three-dimensional data map into a two-dimensional image of on/off values by using a

dynamically created height value, corresponding to a reference plane or set threshold offset above a board surface of the pallet; creating a recipe of repair operations from the three-dimensional data map; and transporting the pallet to at least one repair station in accordance with the recipe.

Independent Claim 20 is directed to a method of automated pallet repair, comprising the steps of generating a map of a pallet, the map including features, dimensions and topography of the pallet; generating a recipe of repair operations based on the map; and transporting the pallet to at least one repair station based on the recipe.

II. The Claims Are Patentable

The Examiner rejected independent Claim 11 over James et al., Harding et al. and Ouellette, and in further view of Gatteschi and Carew. Since independent Claim 11 has been amended to include allowable subject matter, the Applicant's submit that this claim is in condition for allowance.

Similarly, since new independent Claim 17 is based on original independent Claim 11 and dependent Claim 12 except without defining the scanning device as generating a laser beam projected onto the pallet, and without gripping the pallet to be transported, the applicants submit that this claim is also in condition for allowance. This is particularly so since the prior art fails to disclose the following from dependent Claim 12: using a scanning device to create a three-dimensional data map of a pallet for detecting gaps and protrusions in the pallet, and filtering the three-dimensional data map into a two-dimensional

image of on/off values by using a dynamically created height value, corresponding to a reference plane or set threshold offset above a board surface of the pallet.

New independent Claim 20 will now be discussed in view of James et al., Harding et al. and Ouellette, Gatteschi and Carew. The Examiner characterized James et al. as disclosing a method of automated pallet repair, wherein pallets are inspected and if needed, are transported to repair stations for repair. As correctly noted by the Examiner, James et al. fails to disclose the inspection being done by a scanning device to create a map of the pallet, and creating a recipe of repair operations from the map. The Examiner cited Gatteschi as disclosing an automated method for inspecting and repairing a pallet. The Examiner cited Harding et al. as generating a repair profile of an article based on inspection data.

As correctly noted by the Examiner, Harding et al. does not specifically disclose the inspection data being in the form of a map. However, the Examiner cited Carew as disclosing inspection and repair of a structural defect on a surface of a part by scanning the surface of the object to create a map of the object. The Examiner cited Ouellette as disclosing pallets being gripped to move them to the different repair stations.

The Applicants submit that even if the references were selectively combined as suggested by the Examiner, the claimed invention is still not produced. The Applicants submit that the Examiner has mischaracterized Carew. Carew is directed to mapping the surface morphology of an object in order to detect structural defects in the object and/or detect and distinguish

surface features. Morphology of an object is directed to the examining the molecular bonding of the surface materials (column 2, lines 2-3). As discussed in the background section of Carew, many types of defects are not readily visually perceivable and therefore cannot be detected with conventional visual scanning techniques. Reference is directed to column 2, line 66 through column 3, line 13 of Carew, which provides:

> "Referring first to FIG. 1, the present invention is broadly concerned with a device implemented method for mapping the surface morphology of an object in order to detect and repair structural defects in an object. The term "morphology" as used herein is intended to mean the chemical make-up, and particularly the type and concentration of molecular bonding of a material. The term "surface" morphology is intended to refer to the nature or character of the bonding between the first few layers of molecules in the surface of an object. By obtaining information relating to the type and concentration of molecular bonding in the first few layers of molecules, generalizations can be made regarding the presence and nature of surface defects which apply to the structural integrity of the material below the first few molecular layers. (Emphasis added).

In sharp contrast, the map as recited in independent Claim 20 including features, dimensions and topography of the pallet. Accordingly, the recipe of repair operations is generated based on the map. Since Carew is directed to repairing an object at the molecular level, the generated mapped surface

morphology is not the same as the map generated in the claimed invention. In fact, generated mapped surface morphology is too specific and detailed to be used in an automated pallet repair system.

Accordingly, it is submitted that new independent Claim 20 is patentable over James et al., Harding et al. and Ouellette, and in further view of Gatteschi and Carew. Similarly, it is submitted new independent Claim 17 is patentable over James et al., Harding et al. and Ouellette, and in further view of Gatteschi and Carew.

In view of the patentability of new independent Claims 17 and 20, it is submitted that the dependent claims, which include yet further distinguishing features of the invention are also patentable. These dependent claims need no further discussion herein.

III. CONCLUSION

In view of the amendments to the claims, along with the new claims and the arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

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Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 to the Commissioner for Patents on this 25 day of June 2009.